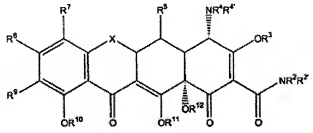
AMENDMENTS TO THE CLAIMS:

Listing of Claims:

This listing of claims will replace all prior versions of the claims and listing of the claims in the application:

1. **(Currently Amended)** A substituted tetracycline compound, wherein said compound is of the formula:



(I)

wherein:

X is ~~CHC(R^{13}Y'Y),~~ CR$^{6'}$R^{6}~~, S, NR^{6}, or O~~;

R^{2} is hydrogen~~, alkyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety~~;

R^{4} and R$^{4'}$ are each ~~hydrogen,~~ alkyl~~, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety~~;

R$^{2'}$, R^{3}, R^{10}, R^{11} and R^{12} are each hydrogen~~ or a pro-drug moiety~~;

R^{5} is hydrogen[[,]] or hydroxyl~~, or a prodrug moiety~~;

R^{6}[[,]] and R$^{6'}$~~, and R^{8}~~ are each independently hydrogen[[,]] or alkyl~~, alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, or halogen~~;

R^{7} is hydrogen, or NR^{7c}C(=W')WR^{7a};

R^{8} is hydrogen;

~~R^{13} is hydrogen, hydroxy, alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;~~

~~Y' and Y are each independently hydrogen; halogen; hydroxyl; cyano, sulfhydryl; amino; alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;~~

R^{9} is hydrogen[[,]] or NR^{9c}C(=Z')ZR^{9a};

Z is O;

Z' is O or S;

R^{9a} is ~~unsubstituted C_3-C_{10} alkyl,~~t-butyl, n-butyl, i-butyl, n-pentyl, substituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted arylsulfonyl, substituted or unsubstituted alkoxycarbonyl, substituted or unsubstituted arylcarbonyl, or substituted or unsubstituted ~~aryl~~phenyl,

wherein said substituted alkyl is substituted with halogen, amino, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, aminoalkyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl;

further wherein said substituted alkenyl, substituted alkynyl, substituted alkoxy~~,~~ substituted arylsulfonyl, substituted alkoxycarbonyl, substituted arylcarbonyl, or substituted ~~aryl~~phenyl is substituted with halogen, amino, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, aminoalkyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl;

R^{9c} is hydrogen~~, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, arylsulfonyl, alkoxycarbonyl, arylcarbonyl, alkylamino, arylalkyl, aryl, heterocyclic or heteroaromatic~~;

W is $CR^{7d}R^{7e}$, NR^{7b} or O;

W' is O or S;

R^{7a}, R^{7b}, R^{7c}, R^{7d}, and R^{7e} are each independently hydrogen, alkyl, alkenyl, alkynyl, alkoxy, ~~alkylthio, alkylsulfinyl,~~ arylsulfonyl, alkoxycarbonyl, arylcarbonyl, alkylamino, ~~arylalkyl, aryl~~phenyl[[,]] or ~~heterocyclic, heteroaromatic, absent, or a prodrug moiety, and R^{7d} and R^{7e} may be linked to form a ring~~;

~~and~~or a pharmaceutically acceptable ~~salts~~salt thereof, provided that R^9 is not hydrogen when R^7 is hydrogen.

2. **(Canceled)**

3. **(Canceled)**

4. **(Currently Amended)** The compound of ~~claim 3~~claim 1, wherein R^4 and $R^{4'}$ are each methyl.

5. **(Canceled)**

6. **(Original)** The compound of claim 4, wherein R^5 is hydrogen.

7. **(Original)** The compound of claim 6, wherein X is CH_2, and R^7 is hydrogen.

8. **(Canceled)**

9. **(Previously Presented)** The compound of claim 4, wherein R^5 is hydroxyl and X is CHR^6.

10. **(Previously Presented)** The compound of claim 9, wherein R^6 is CH_3.

11. **(Original)** The compound of claim 1, wherein R^9 is $NR^{9c}C(=Z')ZR^{9a}$.

12. **(Canceled)**

13. **(Original)** The compound of claim 11, wherein Z' is oxygen.

14. **(Withdrawn)** The compound of claim 11, wherein Z' is sulfur.

15-18. **(Canceled)**

19. **(Currently Amended)** The compound of claim 11, wherein R^{9a} is selected from the group consisting of substituted alkyl, substituted or unsubstituted alkynyl, or substituted or unsubstituted ~~aryl~~phenyl.

20. **(Canceled)**

21. **(Previously Presented)** The compound of claim 19, wherein said substituted alkyl is substituted with one or more substituents selected from the group consisting of alkoxycarbonyl, amino, arylcarbonyl, halogen, hydroxy, alkylamino, alkoxy, or aryl.

22. **(Canceled)**

23. **(Previously Presented)** The compound of claim 19, wherein said substituted alkyl is substituted with an aryl group.

24. **(Original)** The compound of claim 23, wherein said aryl group is phenyl.

25. **(Withdrawn)** The compound of claim 19, wherein said substituted alkyl is substituted with one or more halogens.

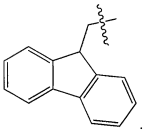
26. **(Withdrawn)** The compound of claim 25, wherein said halogen is bromine.

27-29. **(Canceled)**

30. **(Withdrawn, Currently Amended)** The compound of claim 1, wherein R^{9a} is substituted or unsubstituted ~~aryl~~phenyl.

31. **(Canceled)**

32. **(Previously Presented)** The compound of claim 23, wherein said substituted alkyl group is:



33. **(Canceled)**

34. **(Withdrawn, Currently Amended)** The compound of ~~claim 33~~claim 30, wherein said phenyl is substituted with one or more substituents selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkoxy, aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, amido, halogen, nitro, azo, alkyl sulfonyl, and arylsulfonyl.

35. **(Withdrawn)** The compound of claim 34, wherein said substituent is alkyl.

36. **(Withdrawn)** The compound of claim 35, wherein said alkyl is unsubstituted.

37. **(Withdrawn)** The compound of claim 35, wherein said alkyl is methyl.

38. **(Withdrawn)** The compound of claim 35, wherein said alkyl is substituted with one or more halogens.

39. **(Withdrawn)** The compound of claim 34, wherein said substituent is alkoxy and further wherein said alkoxy is methoxy.

40. **(Withdrawn)** The compound of claim 34, wherein said substituent is selected from the group consisting of alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, and amido.

41-55. **(Canceled)**

56. **(Withdrawn)** The compound of claim 1, wherein R^7 is $NR^{7c}C(=W')WR^{7a}$.

57. **(Withdrawn)** The compound of claim 56, wherein R^9 is hydrogen.

58. **(Withdrawn)** The compound of claim 57 wherein R^{7c} is hydrogen.

59. **(Withdrawn)** The compound of claim 57, wherein W' is O.

60. **(Withdrawn)** The compound of claim 57, wherein W' is S.

61. **(Withdrawn)** The compound of claims 59 or 60, wherein W is NR^{7b}.

62. **(Withdrawn)** The compound of claims 59 or 60, wherein W is O.

63. **(Withdrawn, Currently Amended)** The compound of claim 57, wherein R^{7a} is selected from the group consisting of alkyl, alkenyl, alkynyl[[,]] and phenyl ~~aryl, arylalkyl, and heteroaromatic~~.

64. **(Withdrawn)** The compound of claim 63, wherein R^{7a} is substituted or unsubstituted alkyl.

65. **(Withdrawn)** The compound of claim 64, wherein said alkyl is substituted with an aryl group.

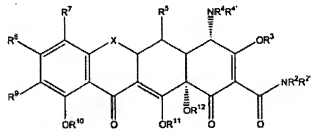
66. **(Canceled)**

67. **(Withdrawn, Currently Amended)** The compound of ~~claim 66~~claim 63, wherein said phenyl is substituted with one or more substituents selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkoxy, aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, amido, halogen, nitro, azo, alkyl sulfonyl, and arylsulfonyl.

68. **(Withdrawn)** The compound of claim 67, wherein said substituent is alkyl, alkoxy, or nitro.

69-81. **(Canceled)**

82. **(Currently Amended)** A pharmaceutical composition comprising a therapeutically effective amount of a substituted tetracycline compound and a pharmaceutically acceptable carrier, wherein said substituted tetracycline is of the formula:



(I)

wherein:

X is ~~CHC(R^{12}Y'Y'),~~ CR$^{6'}$R^{6}~~, S, NR^{6}, or O~~;

R^2 is hydrogen~~, alkyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety~~;

R^4 and $R^{4'}$ are each ~~hydrogen~~, alkyl~~, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety~~;

$R^{2'}$, R^3, R^{10}, R^{11} and R^{12} are each hydrogen~~ or a pro-drug moiety~~;

R^5 is hydrogen[[,]] or hydroxyl~~, or a prodrug moiety~~;

R^6[[,]] and $R^{6'}$, ~~and R^8~~ are each independently hydrogen[[,]] or alkyl, ~~alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, or halogen~~;

R^7 is hydrogen or $NR^{7c}C(=W')WR^{7a}$;

R^8 is hydrogen;

~~R^{13} is hydrogen, hydroxy, alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;~~

~~Y' and Y are each independently hydrogen; halogen; hydroxyl; cyano, sulthydryl; amino; alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;~~

R^9 is hydrogen[[,]] or $NR^{9c}C(=Z')ZR^{9a}$;

Z is O;

Z' is O or S;

R^{9a} is ~~unsubstituted C_3-C_{10} alkyl,~~ t-butyl, n-butyl, i-butyl, n-pentyl, substituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted arylsulfonyl, substituted or unsubstituted alkoxycarbonyl, substituted or unsubstituted arylcarbonyl, or substituted or unsubstituted ~~aryl~~phenyl;

wherein said substituted alkyl is substituted with halogen, amino, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, aminoalkyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl;

further wherein said substituted alkenyl, substituted alkynyl, substituted alkoxy, substituted arylsulfonyl, substituted alkoxycarbonyl, substituted arylcarbonyl, or substituted ~~aryl~~phenyl is substituted with halogen, amino, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, aminoalkyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl;

R^{9c} is hydrogen~~, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, arylsulfonyl, alkoxycarbonyl, arylcarbonyl, alkylamino, arylalkyl, aryl, heterocyclic or heteroaromatic~~;

W is $CR^{7d}R^{7e}$, NR^{7b} or O;

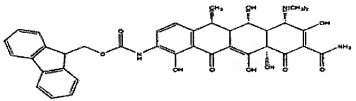
W' is O or S;

R^{7a}, R^{7b}, R^{7c}, R^{7d}, and R^{7e} are each independently hydrogen, alkyl, alkenyl, alkynyl, alkoxy, ~~alkylthio, alkylsulfinyl,~~ arylsulfonyl, alkoxycarbonyl, arylcarbonyl, alkylamino, ~~arylalkyl, arylphenyl[[,]] or heterocyclic, heteroaromatic,~~ absent~~, or a prodrug moiety, and R^{7d} and R^{7e} may be linked to form a ring~~;

~~and~~or a pharmaceutically acceptable ~~salts~~salt thereof, provided that R^9 is not hydrogen when R^7 is hydrogen.

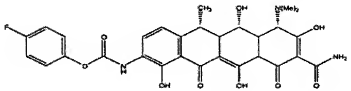
83-102. **(Canceled)**

103. **(Previously Presented)** The compound of claim 1, wherein said compound is



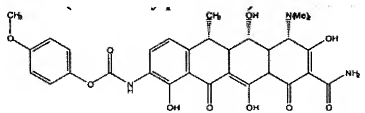
or a pharmaceutically acceptable salt thereof.

104. **(Withdrawn)** The compound of claim 1, wherein said compound is



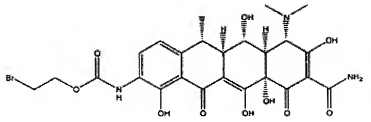
or a pharmaceutically acceptable salt thereof.

105. **(Withdrawn)** The compound of claim 1, wherein said compound is



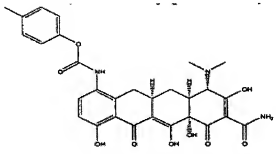
or a pharmaceutically acceptable salt thereof.

106. **(Withdrawn)** The compound of claim 1, wherein said compound is



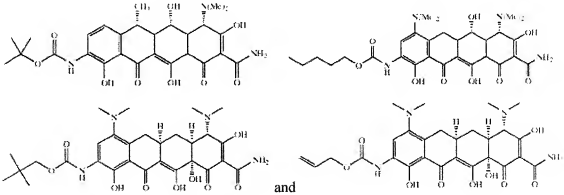
or a pharmaceutically acceptable salt thereof.

107. **(Withdrawn)** The compound of claim 1, wherein said compound is



or a pharmaceutically acceptable salt thereof.

108. **(Withdrawn)** A substituted tetracycline compound, wherein said compound is selected from the group consisting of



and

or a pharmaceutically acceptable salt thereof.

109. **(Previously Presented)** The compound of claim 1, wherein said compound is doxycycline 9-carbamic acid 9*H*-fluoren-9-yl methyl ester or a pharmaceutically acceptable salt thereof.

110. **(Previously Presented)** The compound of claim 1, wherein said compound is FMOC 9-amino doxycycline or a pharmaceutically acceptable salt thereof.

111. **(Withdrawn)** The compound of claim 1, wherein said compound is 9-(4'-fluorophenyl) doxycycline carbamate or a pharmaceutically acceptable salt thereof.

112. **(Withdrawn)** The compound of claim 1, wherein said compound is 9-(4'-methoxyphenyl) doxycycline carbamate or a pharmaceutically acceptable salt thereof.

113-116. **(Canceled)**

117. **(Withdrawn)** The compound of claim 1, wherein said compound is 9-(2'-bromoethyl) doxycycline carbamate or a pharmaceutically acceptable salt thereof.

118. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'-methylphenyl) sancycline carbamate or a pharmaceutically acceptable salt thereof.

119. **(Withdrawn)** The compound of claim 1, wherein said compound is doxycycline 7-carbamic acid 7H-fluoren-7-yl methyl ester or a pharmaceutically acceptable salt thereof.

120. **(Withdrawn)** The compound of claim 1, wherein said compound is 7- (naphthyn-1-yl) doxycycline urea or a pharmaceutically acceptable salt thereof.

121. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(3- methyl-1 - butyl) doxycycline urea or a pharmaceutically acceptable salt thereof.

122. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-phenyl doxycycline urea or a pharmaceutically acceptable salt thereof.

123. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-t-butyl doxycycline urea or a pharmaceutically acceptable salt thereof.

124. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-Fmoc amino doxycycline or a pharmaceutically acceptable salt thereof.

125. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'- chloro-2-trifluoromethylphenyl) doxycycline urea or a pharmaceutically acceptable salt thereof.

126. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'-fluorophenyl) doxycycline carbamate or a pharmaceutically acceptable salt thereof.

127. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'-methoxyphenyl) doxycycline carbamate or a pharmaceutically acceptable salt thereof.

128. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-BOC amino doxycycline or a pharmaceutically acceptable salt thereof.

129. **(Withdrawn)** The compound of claim 1, wherein said compound is 7- (naphthyn-1-yl) doxycycline thiourea 5-propanoic acid ester or a pharmaceutically acceptable salt thereof.

130. **(Withdrawn)** The compound of claim 1, wherein said compound is doxycycline 7-thiocarbamic acid 7*H*-fluoren-7-yl methyl ester or a pharmaceutically acceptable salt thereof.

131. **(Withdrawn)** The compound of claim 1, wherein said compound is 7- (naphthyn-1-yl) doxycycline thiourea or a pharmaceutically acceptable salt thereof.

132. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(3-methyl-1-butyl) doxycycline thiourea or a pharmaceutically acceptable salt thereof.

133. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-phenyl amino doxycycline thiourea or a pharmaceutically acceptable salt thereof.

134. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-t-butyl amino doxycycline thiourea or a pharmaceutically acceptable salt thereof.

135. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'- chloro-2'-trifluoromethylphenyl) doxycycline thiourea or a pharmaceutically acceptable salt thereof.

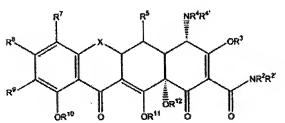
136. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'-fluorophenyl) doxycycline thiocarbamate or a pharmaceutically acceptable salt thereof.

137. **(Withdrawn)** The compound of claim 1, wherein said compound is 7-(4'-methoxyphenyl) doxycycline thiocarbamate or a pharmaceutically acceptable salt thereof.

138. **(Withdrawn)** The compound of claim 1, wherein said compound is 7- (naphthyn-1-yl) doxycycline urea 5-propanoic acid ester or a pharmaceutically acceptable salt thereof.

139. **(Withdrawn)** A tetracycline compound, wherein said compound is selected from the group consisting of:
9-neopentyl minocycline carbamate;
9-BOC amino doxycycline;
9-(n-pentyl) minocycline carbamate;
9-BOC amino minocycline carbamate;
9-(n-pentyl) minocycline carbamate;
9-prop-2'-enyl minocycline carbamate;
9-ethyl minocycline carbamate;
9-n-butyl minocycline carbamate
9-n-but-3-enyl minocycline carbamate; and
9-i-butyl minocycline carbamate; or a pharmaceutically acceptable salt thereof.

140. **(Withdrawn)** A substituted tetracycline compound, wherein said compound is of the formula:



(I)

wherein:

X is CHC(R^{13}Y'Y),C$R^{6'}R^6$,S, NR^6, or O;

R^2 is hydrogen, alkyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety;

R^4 and $R^{4'}$ are each hydrogen, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety;

$R^{2'}$, R^3, R^{10}, R^{11} and R^{12} are each hydrogen or a pro-drug moiety;

R^5 is hydrogen, hydroxyl, or a prodrug moiety;

R^6, $R^{6'}$, and R^8 are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, or halogen;

R^7 is dialkylamino;

R^8 is hydrogen;

R^{13} is hydrogen, hydroxy, alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;

Y' and Y are each independently hydrogen; halogen; hydroxyl; cyano, sulfhydryl; amino; alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;

R^9 is $NR^{9c}C(=Z')ZR^{9a}$;

Z is O;

Z' is O or S;

R^{9a} is unsubstituted or substituted C_5-C_{10} alkyl, substituted or unsubstituted C_4-C_{10} alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted arylsulfonyl, substituted or unsubstituted alkoxycarbonyl, substituted or unsubstituted arylcarbonyl, or substituted or unsubstituted aryl,

wherein said substituted C_5-C_{10} alkyl is substituted with halogen, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl;

further wherein said substituted C_4-C_{10} alkenyl, substituted alkynyl, substituted alkoxy, substituted arylsulfonyl, substituted alkoxycarbonyl, substituted arylcarbonyl, or substituted aryl is substituted with halogen, amino, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino,

alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, aminoalkyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl; and

R^{9c} is hydrogen, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, arylsulfonyl, alkoxycarbonyl, arylcarbonyl, alkylamino, arylalkyl, aryl, heterocyclic or heteroaromatic; and pharmaceutically acceptable salts thereof.

141. **(Withdrawn)** The compound of claim 140, wherein R^2, $R^{2'}$, R^3, R^{10}, R^{11}, and R^{12} are each hydrogen.

142. **(Withdrawn)** The compound of claim 140, wherein R^4 and $R^{4'}$ are each methyl.

143. **(Withdrawn)** The compound of claim 140, wherein R^5 is hydrogen.

144. **(Canceled)**

145. **(Withdrawn)** The compound of claim 140, wherein R^{9c} is hydrogen.

146. **(Withdrawn)** The compound of claim 140, wherein Z' is O.

147. **(Withdrawn)** The compound of claim 140, wherein Z' is S.

148. **(Canceled)**

149. **(Withdrawn)** The compound of claim 140, wherein R^{9a} is substituted C_5-C_{10} alkyl, substituted or unsubstituted alkynyl, or substituted or unsubstituted aryl.

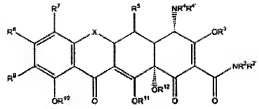
150. **(Withdrawn)** The compound of claim 149, wherein said substituted C_5-C_{10} alkyl is substituted with one or more substituents selected from the group consisting of alkoxycarbonyl, arylcarbonyl, halogen, hydroxyl, alkoxy, or aryl.

151. **(Withdrawn)** The compound of claim 140, wherein R^{9a} is substituted or unsubstituted aryl.

152. **(Withdrawn)** The compound of claim 151, wherein said substituted or unsubstituted aryl is phenyl.

153. **(Withdrawn)** The compound of claim 152, wherein said phenyl is substituted with one or more substituents selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkoxy, aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, amido, halogen, nitro, azo, alkyl sulfonyl, and arylsulfonyl.

154. **(Withdrawn)** A pharmaceutical composition comprising a therapeutically effective amount of a substituted tetracycline compound and a pharmaceutically acceptable carrier, wherein said substituted tetracycline is of the formula:



(I)

wherein:

X is CHC(R^{13}Y'Y), C$R^{6'}R^6$, S, NR^6, or O;

R^2 is hydrogen, alkyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety;

R^4 and $R^{4'}$ are each hydrogen, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety;

$R^{2'}$, R^3, R^{10}, R^{11} and R^{12} and are each hydrogen or a pro-drug moiety;

R^5 is hydrogen, hydroxyl, or a prodrug moiety;

R^6, $R^{6'}$, and R^8 are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, or halogen;

R^7 is dialkylamino;

R^8 is hydrogen;

R^{13} is hydrogen, hydroxy, alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;

Y' and Y are each independently hydrogen; halogen; hydroxyl; cyano, sulfhydryl; amino; alkyl; alkenyl; alkynyl; alkoxy; alkylthio; alkylsulfinyl; alkylsulfonyl; alkylamino; or an arylalkyl;

R^9 is NR^{9c}C(=Z')ZR^{9a};

Z is O;

Z' is O or S;

R^{9a} is unsubstituted or substituted C_5-C_{10} alkyl, substituted or unsubstituted C_4-C_{10} alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted arylsulfonyl, substituted or unsubstituted alkoxycarbonyl, substituted or unsubstituted arylcarbonyl, or substituted or unsubstituted aryl,

wherein said substituted C_5-C_{10} alkyl is substituted with halogen, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl,

arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl;

further wherein said substituted C_4-C_{10} alkenyl, substituted alkynyl, substituted alkoxy, substituted arylsulfonyl, substituted alkoxycarbonyl, substituted arylcarbonyl, or substituted aryl is substituted with halogen, amino, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, alkylcarbonyloxy, alkyloxycarbonyl, arylcarbonyloxy, alkoxycarbonylamino, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, alkylaminoacarbonyl, arylalkyl aminocarbonyl, alkenylaminocarbonyl, alkylcarbonyl, arylcarbonyl, aminoalkyl, arylalkylcarbonyl, alkenylcarbonyl, alkoxycarbonyl, silyl, aminocarbonyl, alkylthiocarbonyl, phosphate, aralkyl, phosphonato, phosphinato, cyano, acylamino, amido, imino, sulfhydryl, alkylthio, sulfate, arylthio, thiocarboxylate, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, cyano, azido, heterocyclyl, alkylaryl, aryl or heteroaryl; and

R^{9c} is hydrogen, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, arylsulfonyl, alkoxycarbonyl, arylcarbonyl, alkylamino, arylalkyl, aryl, heterocyclic or heteroaromatic; and pharmaceutically acceptable salts thereof.

155. **(Withdrawn)** The compound of claim 140, wherein said compound is minocycline 9-carbamic acid 9*H*-fluoren-9-yl methyl ester or a pharmaceutically acceptable salt thereof.

156. **(Withdrawn)** The compound of claim 140, wherein said compound is FMOC 9-amino minocycline or a pharmaceutically acceptable salt thereof.

157. **(Withdrawn)** The compound of claim 140, wherein said compound is 9-(4'-fluorophenyl) minocycline carbamate or a pharmaceutically acceptable salt thereof.

158. **(Withdrawn)** The compound of claim 140, wherein said compound is 9-(4'-Methoxyphenyl) minocycline carbamate or a pharmaceutically acceptable salt thereof.